Next Generation Meteorological Satellite (METSAT) Field Terminal and Alternative Antenna Prototypes for the National Polar-orbiting Operational Environmental Satellite System (NPOESS): This is a solicitation for information or planning purposes, in accordance with the FAR Clause 52.215-3. This notice also serves as the Government pre-solicitation notice of its intent to release an RFP for award of one or more demonstration and validation contracts, as discussed below. The RFI initiated herein is the first of two interactions with industry: (A) Exploratory Development (not Government funded—Response to this RFI); and (B) Demonstration and Validation (Government funded or Cost-Shared). It is anticipated the NPOESS/Integrated Program Office (IPO) will provide the ultimate terminal design for the prototype to be supplied to the end users, including the respective DoD agencies and DOC/NOAA. This announcement provides design attributes for a next generation METSAT field terminal prototype(s) that will support multiple missions, operating bands, and variable platforms in the NPOESS environment. Notional terminal attributes are noted below. The Government requests interested, potential vendors responding to this notice to document their capability to potentially implement these design attributes in an open-architecture, cross-platform, Next Generation METSAT Field Terminal(s). Your response shall be an expression of capability only, and does not commit the Government to pay any response preparation cost or to proceed with an RFP for award of a demonstration and validation phase. The Government will assess the responses and determine whether to proceed with awarding a subsequent phase to demonstrate and validate the feasibility of one or more concepts. All interested and responsible offerors that have conceived a feasible approach, and indicate corporate interest, background and technical capability in response to the criteria below will receive the RFP for Phase B. Therefore serious respondents should clearly identify their interest and capability, and minimally address the salient attributes below. Respondents are also requested to e-mail the POC's of their intent to respond. The National Polar-orbiting Operational Environmental Satellite System (NPOESS) Integrated Program Office (IPO), Silver Spring, MD seeks sources with experience in developing METSAT receiving and display hardware, software and small (tactical) satellite antennas to build NPOESS field terminal prototypes and provide L-band small antenna options. The design attributes should include an emphasis on the unit price, ease of set-up and operation in a tactical field environment or aboard ship, size, transportability, supportability, and readily accessible components. The NPOESS is the next generation polar-orbiting environmental satellite that will replace the National Oceanic and Atmospheric Administration (NOAA) Polar-orbiting Operational Environmental Satellite (POES) and Defense Meteorological Satellite Program (DMSP) satellites as early as 2008. The current field terminals used throughout the Department of Defense (DoD), Department of Commerce (DOC), and worldwide civilian community are not capable of receiving the data provided by NPOESS in their current configurations. By the time the first NPOESS satellite launches, these terminals may have outlived their usefulness and modifying them for the NPOESS system may not be cost effective. The successful prototype(s) for this 2-3 year effort will demonstrate to civilian and military users the capability to receive and process current polar-orbiting satellite information (i.e. TERRA/AQUA) at a bandwidth similar to the future NPOESS bandwidth. These prototypes will be the recommended solution to the user community for their purchase to enable them to receive NPOESS data. It is anticipated that the successful architecture will be made available to the commercial community for production and sales in the wider commercial market place. Additionally, since NPOESS will transmit data at a much higher rate than existing polar-orbiting satellites, even in the low rate stream, antenna size optimization will be an important consideration. A successful antenna design will be small, light weight, ruggedized, tactically transportable off-road, easy and quick to assemble multiple times per day in a field environment, and inexpensive. TECHNICAL: The NPOESS will transmit raw data using CCSDS packetization protocol at X-band (7800 MHz @ 20Mbps) and L-band (1698-1710 MHz @ 3.5 – 4.0 Mbps). The user community has expressed a desire to use their existing antennas (1.0 – 1.5 meters for L-band and 2.0 meters for X-band), and the prototype should take this into consideration. However, vendors are encouraged to propose smaller antennas, new technology, or alternately configured antennas (i.e. phased-array, conical, etc.) as long as they can close the link and maintain sufficient excess margin. If no technology enables sufficient excess link margin, explain the reduced margin below specs as a tradeoff to maintain the small, light-weight, ruggedized requirements. Determination of antenna size should consider varying rain rates and acquisition angles at the appropriate frequency and data rate. Antenna size is extremely important; the L-band unit will be used everywhere from shipboard to 2-person teams deploying with the Army. The smaller or more compact the antenna and receiver can be, the better. Vendors may propose innovative hardware or data ingest solutions, and may also incorporate any part of existing systems as part of their prototype. This RFI is looking for vendors interested in building a prototype of any of the following terminals and and/or associated antenna: 1) an X-

band NPOESS HRD terminal, 2) an L-band NPOESS LRD terminal, 3) an X-band terminal capable of receiving the NPOESS HRD and all (polar and geostationary (e.g. GOES) legacy satellites, 4) an L-band terminal capable of receiving NPOESS LRD, legacy POES, DMSP, METOP and geostationary (e.g. GOES) data, 5) and designs for small L-band antennas. These terminals and antenna must be flexible enough to sustain continuous tracking on the signal(s) of interest, whether operating in a fixed base land, mobile or ship-based environment. The NPOESS IPO is committed to ensuring all field terminals are in compliance with the Joint Technical Architecture (JTA) standards (http://www.itsi.disa.mil/jta.html) and will not entertain any prototype that is not JTA compliant. The goal of the NPOESS IPO is to ensure a fully open architecture for NPOESS and future METSAT systems. The NPOESS IPO will provide both the Integrated Data Processing System software that will convert raw data from NPOESS sensors into Environmental Data Records (EDRs) and the required computing hardware specifications for the NPOESS data processing. Field terminals will be fully interoperable no matter who the user is and will have the capability to be networked worldwide. The IPO will require vendors, if selected to participate in this effort, to demonstrate their system. SUBMITTALS: Vendors are invited to respond to any or all parts of this RFI. Vendors with experience or capability in these areas should submit an approach to any or all of the notional terminals listed in (1)(a-e), immediately following. The submittals shall include the vendors' architectural approach for any or all of the following terminals: 1) Synopsize your architectural approach for developing: a) an X-band NPOESS HRD terminal, b) an L-band NPOESS LRD terminal, c) an X-band terminal capable of receiving the NPOESS HRD and all (polar and geostationary (GOES)) legacy satellites, d) an L-band terminal capable of receiving NPOESS LRD, legacy POES, DMSP, METOP and geostationary (GOES) data and e) designs for small L-band antennas; 2) document your experience at supporting demonstrations of prototypes, including field demonstrations 3) prepare a budgetary ROM and basis of estimate for this development, 4) identify your proposed software and hardware (if using off the shelf) and 5) supply your pertinent company information, including contact person, phone number, and email address. Responses to this RFI shall be submitted to: NPOESS IPO, 8455 Colesville RD. Suite 1450, Silver Spring, MD 20910 ATTN: Jay W. Moore. Any data received in response to this RFI that is marked as Competition Sensitive or Proprietary will be handled as trade secrets, and are exempt from disclosure under 5 U.S.C. 552(b)(4). Prospective offerors are invited to submit comments on the Government's proposed requirements, or alternately recommend approaches that will satisfy the Government's overall goals of procuring an open architecture, cross-platform Field Terminal that will reduce life cycle cost, improve data collection and weapon system management and safety, and expand commercial market potential for this terminal. Offerors who intend to respond with statements of capability are requested to contact the POC by the response date. Interested firms are requested to submit any comments and suggestions on the preliminary documents and their capability statements to the address cited above. The due date for all responses is 31 Oct 2001. Responses shall be treated as business proprietary, in accordance with the respondent's page notations. Any non-proprietary claims should be identified in the respondent's documentation. Pages should be printed on 8 ½ x 11 inch paper, with type no smaller than 12 point. Figures, tables and charts are not limited to 8 ½ x 11, but must be folded to that size. Documents shall be submitted in hard copy and electronic form, in Microsoft WORD, EXCEL, or PowerPoint. A cover sheet should be provided for each evaluation criterion. The responses should be concise and direct. Any peripheral data on unrelated programs, or excess corporate or marketing data is not desired. An original and ten (10) copies of all information is requested. Please also include information on the proposal title, the lead organization responding, the type of business, and contact points for members of the technical and business team. ALL INTERESTED AND QUALIFIED VENDORS WILL BE CONSIDERED. See Notes 25 and 26. This RFI is for information and planning purposes only, and should not be construed as a Request for Proposal (RFP) or solicitation of an offer. The Government does not intend to award a contract on the basis of this RFI or otherwise pay for the information solicited. POC: Mr. Jay W. Moore, Contracting Officer, 301-427-2126, ext. 112; and Lt Col Pete Linnemann, Technical, (301) 427-2084 X 151.